



Jimson Weed (*Datura stramonium*)

(Street Names: Thornapple, stinkweed, locoweed, augushka, ditch weed, devil's snare, devil's seed, devil's trumpet, Korean morning glory, Jamestown weed, angel's trumpet, beelzebub's twinkie, madhatter, and crazy tea.)

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Introduction:

Jimson weed is the common name for the plant known botanically as *Datura stramonium* (family: Solanaceae). It has been used as an herbal medicine and intoxicant for years in Asia, Europe, North and South America.

Jimson weed is native to much of the U.S. (from Northeastern U.S. to Texas). The plant can reach a height of 5 feet, bears white or purple flowers and has prickly seed pods that split open in the fall.

Licit Uses:

Jimson weed has been used in traditional medicine to treat a variety of illnesses (madness, epilepsy, and depression), because of its anticholinergic and antispasmodic properties. Extracts are still used for the treatment of asthma, intestinal cramps, diarrhea and bed-wetting. The plant's main active constituents are the belladonna alkaloids atropine, hyoscyamine and hyoscine (scopolamine), which are muscarinic anticholinergics.

Chemistry and Pharmacology:

The plant leaf typically contains 0.2-0.45% alkaloids, principally the tropine alkaloids atropine, (-)-hyoscyamine and scopolamine ((-)-hyoscine). These alkaloids block the effects of the neurotransmitter acetylcholine, causing dry mouth, dilated pupils, high temperature (but with reduced sweating), and blurred vision. Psychological effects include confusion, euphoria, and delirium. All parts of the plant are toxic, and pleasant effects are limited. Depending upon the dose ingested, toxicity usually occurs within 30 to 60 minutes after ingestion. Initial symptoms include hallucinations, dry mucous membranes, thirst, dilated pupils, blurred vision, and difficulty speaking and swallowing. Subsequent effects may include tachycardia and urinary retention. Rarely experienced, late symptoms may include hyperthermia, respiratory arrest, and episodes of seizure. Slowing of gastrointestinal motility may prolong elimination of the toxin, thus causing symptoms to persist for 24 to 48 hours. Medical intervention should be sought immediately in cases of suspected Jimson weed overdose.

Illicit Uses:

Jimson weed is most often abused by young people in an effort to experience its purported euphoria- and delirium-producing properties.

User Population:

Jimson weed is mostly abused by younger teens and is usually only a one-time experimentation, due to the adverse and largely unpleasant effects caused by Jimson weed ingestion. Few statistics are available on use. However, The American Association of Poison Control Centers (AAPCC) National Poison Data System indicates that anticholinergic plants are involved in a number of toxic exposures that have resulted in two deaths in 2010. According to the AAPCC, there were 834 anticholinergic plant case mentions (754 single exposures) and 351 atropine case mentions (198 single exposures) in 2010.

Illicit Distribution:

The National Forensic Laboratory Information System (NFLIS) is a DEA database that collects scientifically verified data on analyzed drug exhibits from state and local forensic laboratories. The System to Retrieve Information from Drug Evidence (STRIDE) provides information on analyzed Federal exhibits from DEA forensic laboratories. Although atropine, hyoscyamine, and scopolamine data are reported, it can not be determined whether these drugs were actually Jimson weed or seized pharmaceuticals. In 2011, there were 37 atropine reports, 16 hyoscyamine reports, and 3 scopolamine reports from Federal, state and local forensic laboratories. In the first six months of 2012, there was one atropine and seven hyoscyamine reports from forensic laboratories.

Control Status:

Neither Jimson weed nor any of its constituents are controlled under the CSA. Several states such as Connecticut, Kansas, Louisiana, Nevada, New Jersey, Oklahoma and Tennessee have enacted legislation placing regulatory controls on *Datura stramonium* and/or its alkaloids.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section. Fax 202-353-1263, Telephone 202-307-7183, or Email ODE@usdoj.gov.